

IN THE CLAIMS

Please cancel Claims 16-18 without prejudice or disclaimer.

Please amend Claims 2, 15, 19, 26, and 33 as follows:

1. (Original) A method of making an electrical structure, comprising:

preparing a database;

placing a substrate in a first laser processing system, the substrate comprising an electrically insulating material and a first blanket layer of conductive material disposed on a first surface thereof;

forming at least one fiducial by laser etching;

removing portions of the conductive material by laser etching so as to form isolated conductive traces;

laser etching at least one alignment hole suitable for receiving therethrough at least one alignment pin;

laser etching at least one folding line; and

singulating the electrical structure;

wherein forming the at least one fiducial, removing portions of the conductive material; etching the at least one alignment hole; etching at least one folding line; and singulating the electrical structure are all performed within the first laser processing system.

2. (Currently Amended) The method of Claim 1, wherein forming the at least one fiducial, removing portions of the conductive material; laser etching ~~cutting~~ the at least one alignment hole; laser etching ~~cutting~~ at least one folding line; and singulating the

electrical structure are all performed within the first laser processing system without removing the substrate from the laser processing system until the singulation operation is complete.

3. (Original) The method of Claim 1, wherein the conductive material comprises copper.

4. (Original) The method of Claim 1, wherein forming at least one fiducial comprises removing portions of the conductive material.

5. (Original) The method of Claim 4, wherein forming at least one fiducial further comprises removing portions of the substrate.

6. (Original) The method of Claim 1, wherein the database is communicatively coupled to the laser processing system so as to provide control signals that direct at least a portion of a plurality of operations of the laser processing system to the laser processing system.

7. (Original) The method of Claim 5, wherein the electrical structure is a space transformer.

8. (Original) The method of Claim 5, wherein the substrate comprises a material selected from the group consisting of FR-4, epoxy, and polyimide.

9. (Original) The method of Claim 5, wherein the substrate comprises a board suitable as a printed circuit board.

10. (Original) The method of Claim 5, wherein the substrate comprises a flexible material suitable for flex circuits.

11. (Original) The method of Claim 6, wherein a second layer of conductive material is disposed on a second surface of the substrate.

12. (Original) The method of Claim 6, wherein the substrate comprises at least one conductive trace formed therein.

13. (Original) The method of Claim 6, wherein the singulated electrical structure is a single-chip package.

14. (Original) The method of Claim 6, wherein the singulated electrical structure is a multichip package.

15. (Currently Amended) The method of Claim 3, further comprising removing a portion of a passivation layer disposed on the copper, wherein the copper underlying the removed portion of the passivation layer remains substantially unremoved.

16. - 18. (Cancelled)

18 19. (Currently Amended) ~~The method of Claim 18,~~ A method of making an electrical structure, comprising: providing an insulating substrate having a first major surface and a second major surface opposite the first major surface, with a layer of metal disposed on the first major surface; and removing, by laser etching, at least one portion of the layer of metal so as to form at least one trace and at least one space adjacent thereto; wherein the at least one trace has a height, a width, and a first aspect ratio (height/width); and the at least one space has a height, a width, and a second aspect ratio (height/width), and wherein the second aspect ratio is greater than the first aspect ratio, the trace comprises copper, the height of the conductive trace is in the range of 9 to 72 microns, the second aspect ratio is in the range of 0.75 to 50, and wherein the laser etching is performed in a first laser etching system, further comprising forming at least one fiducial, and at least one alignment hole, without removing the substrate from the first laser etching system, and without realigning the substrate within the first laser etching system.

17 20. (Original) The method of Claim 19, further comprising forming at least one bar code, without removing the substrate from the first laser etching system, and without realigning the substrate within the first laser etching system.

18 21. (Original) The method of Claim 20, further comprising forming at least one folding line, without removing the substrate from the first laser etching system, and without realigning the substrate within the first laser etching system.

19 22. (Original) The method of Claim 19, further comprising forming at least one passivation opening.

23. (Original) A method of forming a space transformer, comprising:

placing a substrate with a first major surface and a second major surface, the substrate comprising an electrically insulating material, and a first layer of material disposed on the first major surface, into a first pulsed laser etching system;

etching, with the first pulsed laser etching system, portions of the first layer and portions of the substrate to form at least one fiducial;

without removing the substrate from the first pulsed laser etching system, etching portions of the first layer to form conductive traces separated by spaces;

without removing the substrate from the first pulsed laser etching system, etching portions of the first layer and the substrate to form alignment holes;

without removing the substrate from the first pulsed laser etching system, laser etching folding lines; and

without removing the substrate from the first pulsed laser etching system, etching portions to singulate the space transformer;

wherein the width of the spaces is less than the width of the conductive traces.

24. (Original) The method of Claim 23, further comprising the first laser etching system receiving control information from a database, wherein the control information directs at

least a portion of the etching by the first pulsed laser etching system with respect to the coordinates of a material to be etched.

22 25. (Original) The method of Claim 24, wherein the coordinates of the material to be etched are selected from a single coordinate system, independent of the feature formed by the etching.

23 26. (Currently Amended) The method of Claim 23, wherein etching comprises:  
exposing a first portion of the first material to a first laser pulse, the first portion determined by a first set of coordinates of a first coordinate system;

exposing a second portion of the first material to a second laser pulse, the second portion determined by a second set of coordinates of the first coordinate system; and

exposing a third portion of the first material to a third laser pulse, the third portion determined by the first third set of coordinates of the first coordinate system.

24 27. (Original) The method of Claim 23, wherein exposing the first portion to the third laser pulse occurs subsequent to exposing the second portion to the second laser pulse.

25 28. (Original) The method of Claim 23, wherein exposing the first portion to the third laser pulse occurs prior to exposing the second portion to the second laser pulse.

~~26~~ 29. (Original) The method of Claim 23, wherein etching comprises:

exposing a first coordinate position of the first material to a first laser pulse;  
exposing a second coordinate position of the first material to a second laser pulse; and  
exposing at least a portion of a third coordinate position of the first material to a third laser pulse.

~~27~~ 30. (Original) The method of 29, wherein exposing the at least a portion of the first coordinate position of the first material to the third laser pulse occurs subsequent to exposing the second coordinate position of the first material to the second laser pulse.

~~28~~ 31. (Original) The method of Claim 29, wherein exposing the at least a portion of the first coordinate position of the first material to the third laser pulse occurs prior to exposing the second coordinate position of the first material to the second laser pulse.

~~29~~ 32. (Original) The method of Claim 25, further comprising forming, by laser etching, at least one graphical symbol from the first layer of material.

~~30~~ 33. (Currently Amended) The method of Claim ~~32~~ 34, wherein the at least one graphical symbol is a bar code.

~~31~~ 34. (Original) The method of Claim 25, further comprising removing at least one portion of an adhesive layer, the adhesive layer disposed between the first material and the

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substrate, the at least one portion corresponding to a region defined by an overlying space, wherein removing the at least one portion of the adhesive layer is performed without removing the substrate from the first laser etching system, and without realignment of the substrate.